

DOE
Laboratory Operations Board
National Security Review

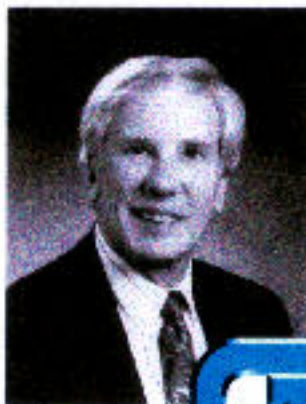
The Laboratory Perspective

S. S. Hecker
Director
Los Alamos National Laboratory
November 8, 1996

For the safety and reliability of U.S. nuclear warheads the buck stops here



Los Alamos



- **We are the stewards—from the beginning into the indefinite future and from cradle to grave**
- **Each director feels a personal sense of accountability for every warhead that's fielded by his laboratory**
- **Each director feels a personal obligation for the future of the laboratory and the enterprise**

Nuclear weapons stewardship governs our views

- **We provide the continuity, and we are a conscience for the program**
- **We are not just another contractor**
 - **We are driven by public service**
 - **We do the government's work**
 - **on its land and in its facilities**
 - **with its money**
 - **per its overall guidance**
 - **with plenty of its oversight**
- **We fight for the scientific vitality of our institutions as our bridge to the future**
- **We try to enhance our operations/productivity by benchmarking private industry**



Science-Based Stockpile Stewardship

Comprehensive Test Ban Treaty

"As part of our national security strategy, the United States must and will retain strategic nuclear forces sufficient to deter any future hostile foreign leadership with access to strategic nuclear forces from acting against our vital interests and to convince it that seeking a nuclear advantage would be futile. In this regard, I consider the maintenance of a safe and reliable nuclear stockpile to be a supreme national interest of the United States.

I am assured by the Secretary of Energy and the Directors of our nuclear weapons labs that we can meet the challenge of maintaining our nuclear deterrent under a Comprehensive Test Ban Treaty through a Science-Based Stockpile Stewardship program without nuclear testing...

In order for this program to succeed, both the Administration and the Congress must provide sustained bipartisan support for the stockpile stewardship program over the next decade and beyond. I am committed to working with the Congress to ensure this support."

**President Bill Clinton
August 11, 1995**

Comprehensive Test Ban Treaty Safeguards

Pres. Clinton, Aug. 11, 1995

- A. Conduct of a Science-Based Stockpile Stewardship program to insure confidence in the stockpile**
- B. Maintenance of modern nuclear laboratories to retain and attract excellent scientists**
- C. Maintenance of capability to resume nuclear testing**
- D. Continue comprehensive R&D to improve treaty monitoring capabilities and operations**
- E. Continue development of intelligence capabilities**
- F. Exercise "Supreme National Interests" clause if high level of confidence could no longer be certified ***

*** Calls for new annual certification process and advice from three nuclear weapons labs directors to Secretaries of Defense and Energy**



Los Alamos Los Alamos National Laboratory
of the University of California
Los Alamos, New Mexico 87545

September 20, 1996

The Honorable Hazel R. O'Leary
Secretary of Energy
1000 Independence Avenue, SW
Washington, DC 20585

The Honorable William J. Perry
Secretary of Defense
The Pentagon, OSD 3E880
Washington, DC 20301

Dear Secretary O'Leary and Secretary Perry:

One year ago on August 11 the President announced a new annual nuclear weapons certification process as part of his decision to seek a zero-yield comprehensive test ban (CTB). The Los Alamos National Laboratory has just completed this process, and *I am able to certify that the B61 Mods 3, 4, 7, and 10, W76, W78, W-80, and W-88 warheads continue to be safe and reliable without the resumption of underground nuclear testing at this time.* We have reservations about..... These reservations are not related to nuclear testing and are spelled out in detail in the certification report delivered to Dr. Reis.

I believe that the new annual certification process is very beneficial in assuring the vitality of the nation's nuclear deterrent. We not only reviewed the need for nuclear testing as requested by the President, but also assessed all aspects of safety and reliability for each warhead in conjunction with the Sandia National Laboratories and the military services.

This process also underscores the difficulty of the job ahead. The nature of the materials inherent in nuclear weapons results inevitably in age-induced degradation of components and systems. During the past year, we found several changes in stockpiled weapons requiring assessment and evaluation. Fortunately, we have on hand people with experience and proper judgment to evaluate these problems. We still see the need for taking measures that will enhance the performance margins of primaries, for developing more sophisticated surveillance of the aging stockpile and for a program of high-fidelity flight tests program of systems to complete our evaluation of warhead behavior in realistic Stockpile-to-Target conditions.

Finally, I recognize the urgency to accelerate the transition from nuclear test-based stewardship to science-based stewardship and I am committed to meeting that challenge. As the people with test and design experience age themselves, it becomes imperative to train the next generation of stewards using all the tools we can develop to better understand and to better assess the safety and reliability of the stockpile. In addition, the DOE must maintain an adequate capability to refurbish and repair the stockpile as needed. I remain optimistic that the science-based approach to stockpile stewardship is developing the proper foundation for the future.

Sincerely,

A handwritten signature in dark ink, appearing to read "S. S. Hecker".

S. S. Hecker
Director



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of the University of California

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**S. S. Hecker
Director**



Los Alamos

Los Alamos National Laboratory
of the University of California

Los Alamos, New Mexico 87545

August 11, 2012

The Honorable
Secretary of Energy
1000 Independence Avenue, SW
Washington, DC 20585

The Honorable
Secretary of Defense
The Pentagon, OSD 3E880
Washington, DC 20301

Dear Secretaries and

We have just completed our 17th annual certification process. Although we have not performed an underground nuclear test for 20 years now, I can certify the current Los Alamos weapons in the stockpile to be safe and reliable without resuming such tests because of the science-based stockpile stewardship program begun in 1995 and its integration over the years with a responsible, cost effective stockpile management program.

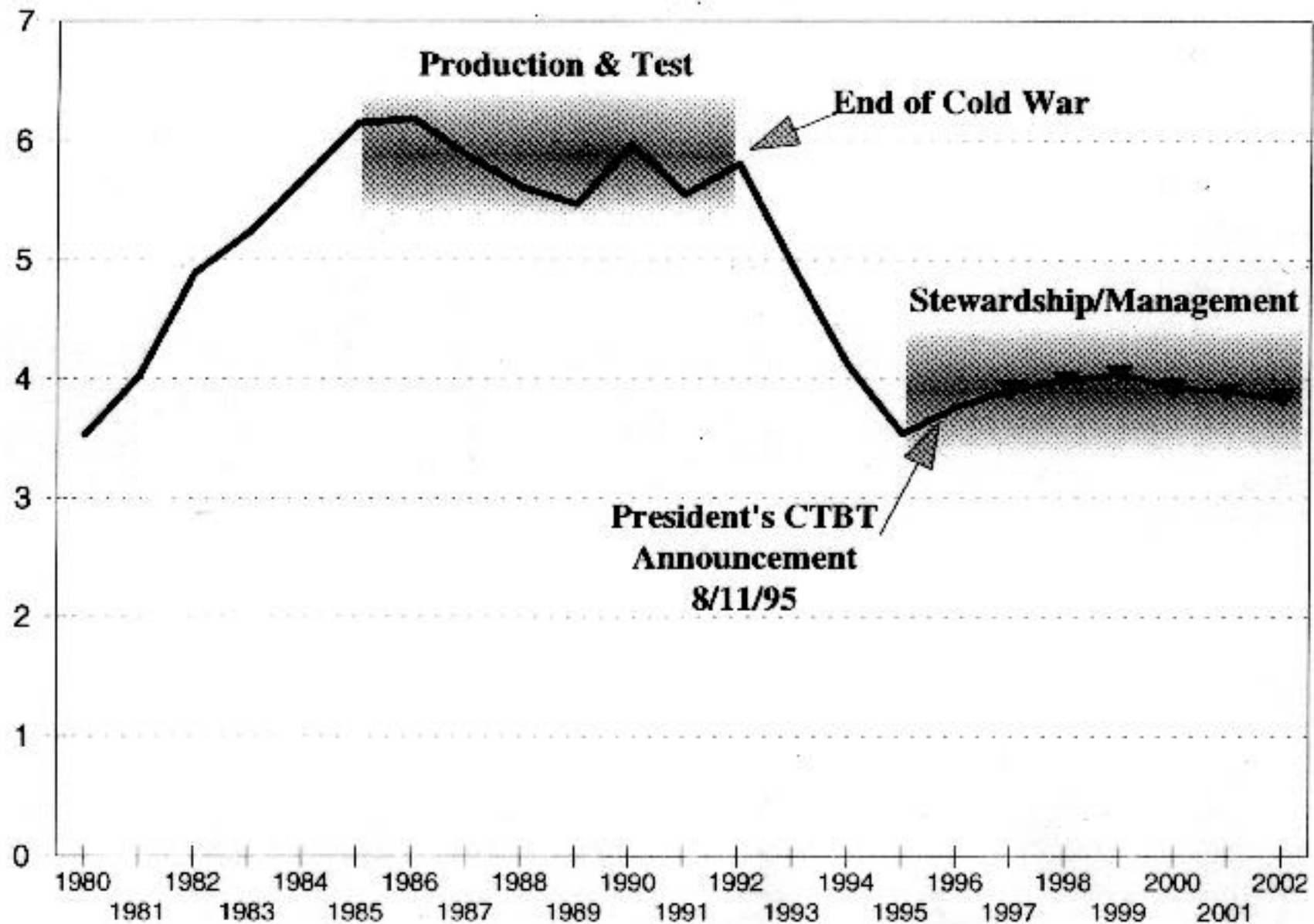
More specifically,

Sincerely,

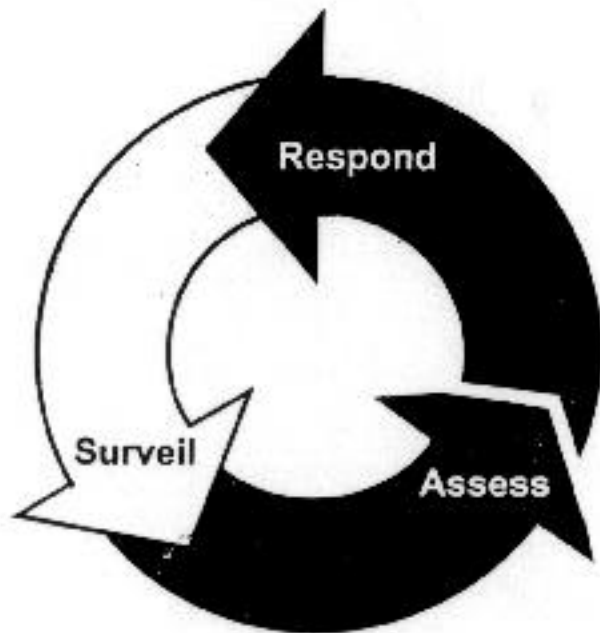
Director, Los Alamos
National Laboratory

Defense Programs

Historical and Planned Weapons Activities Funding
Constant FY 1997 Dollars in Billions

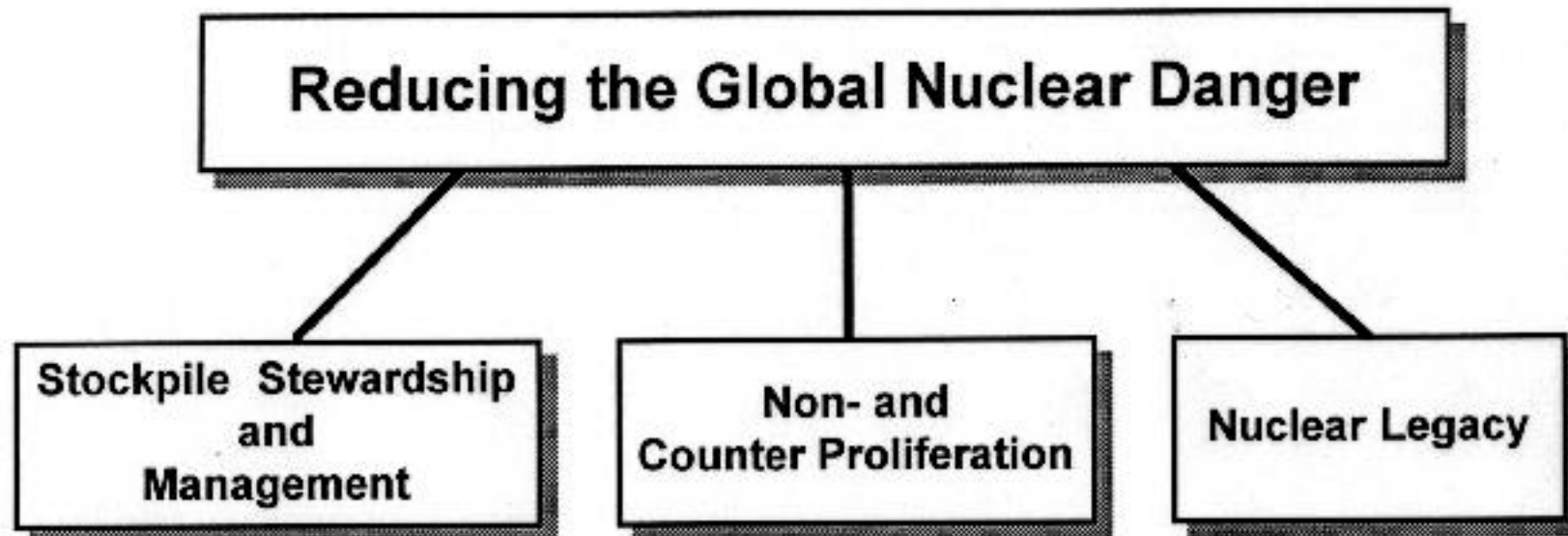


Stockpile Stewardship and Management must be a continuous, fully integrated process



- A surveillance process, which is capable of diagnosing and predicting aging-related phenomena in stockpile weapons
- A fundamental understanding of the consequences of the aging and manufacturing processes on weapons performance
- The capability to repair and/or remanufacture and to revalidate stockpile weapons

At Los Alamos, the stockpile stewardship and management program is the central element of our mission of “reducing the global nuclear danger.”



The long-term vitality of our laboratory requires:

- **Compelling national mission**
- **Focus on great science**
- **Maintaining the multiprogram nature**
- **World-class operations/safety/environment**



Roles and responsibilities must be defined better to enhance productivity and mission accomplishment

- **Stockpile stewardship works** -- especially SBSS
 - HQ -- champion for policy and budget
-- role of overall direction and integration, etc.
 - Field -- execution at the laboratories
- **Stockpile management** -- field offices have a program management role
-- some redundancy and ambiguity exists with HQ
- **Oversight** -- should move from process (run by many overseers)
to performance (with few overseers)
- **Infrastructure** -- need a stronger commitment to modernizing
our facilities

“You saved civilization”

**Quote from Richard Rhodes at 50th
anniversary address at Los Alamos,
June 7, 1993.**

We should settle for nothing less.